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THE INSECT PEST SURVEY BULLETIN

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OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR MAY, 1928

The season in the eastern United States, as indicated by insect appearance and prevalence, is still from two to three weeks late. A most interesting development in this connection, however, has come to our attention. It appears that in Nova Scotia insect development is nearly three weeks earlier than it was last year, and the Nova Scotia Fruit Growers Association is recommending late treatment for the red mites and bud moth accordingly.

White grubs in general seem to be less prevalent than last year. A rather large brood of beetles was emerging early in the month in the Middle Atlantic, East Central, and eastern part of the West Central States.

Reports of unusual wireworm injury have been received from the New England, East Central, and West Central States.

Cutworms appear to be less prevalent than at this time last year over the New England, South Atlantic, and North Central States.

The Hessian-fly situation, on the whole, seems to be favorable. Reports from Indiana, Kansas, and Nebraska indicate moderate and spotted infestations.

A survey carried on in Illinois indicates that but little damage is to be anticipated from the chinch bug this year.

Green-bug infestations seem to be quite general throughout central Kansas, but the infestations are not serious and but little damage has been experienced.

A rather unusual outbreak of leafhoppers has developed in the wheat fields of southern and western Nebraska.

Billbugs are attracting considerable attention on corn in parts of North Carolina, Ohio, Indiana, and Missouri.

Early in the month damage to alfalfa by the pea aphid was reported from Indiana, Kansas, and Utah.

The lesser clover leaf weevil is again appearing in threatening numbers in the clover-seed producing section of Illinois.

The aphid situation reported in the last number of the Survey Bulletin has not materially changed, aphids remaining unusually scarce throughout the Middle Atlantic, New England, and East Central States and the Pacific Northwest. These insects are reported, however, as more abundant than usual in the Fort Valley section of Georgia.

Codling-moth emergence, on the whole, is much later than usual throughout the Middle Atlantic and East Central States.

The eastern tent caterpillar is reported as subnormally to normally abundant throughout the New England and Middle Atlantic States, damage so far being very slight throughout this region. Parasitism, in comparison with conditions last year, has substantially increased in New England.

The San Jose scale suffered very high mortality in southern Indiana.

The European red mite appears to have survived the winter very successfully, and present indications are that infestations this year will be as severe if not more severe than last year throughout the New England and Middle Atlantic States.

The pear psylla is appearing in normal abundance in New England and New York State.

Diphadnus californicus occurred in very unusual numbers in Benton County, Washington, where it stripped the foliage from 120 acres of pears.

The oriental fruit moth started emerging during the first week of May in New York and Ohio. In the Georgia fruit belt this insect is very scarce this year. Its relative abundance has not yet been ascertained over the rest of its range.

Although the plum curculio was observed 6 days earlier than in 1927 in Massachusetts it is later than usual throughout the greater part of its eastern range. In Georgia it is 25 days behind its normal schedule.

An intensive campaign to eradicate the citrus whitefly which was recently found in a nursery in California is now under way.

The cabbage curculio is doing very serious damage in Kansas and Nebraska. One grower near Omaha lost 10,000 young cabbage plants as a result of the attack of this insect, and this is the first serious report recorded from this State.

The asparagus beetle appears to be normally abundant throughout the New England and East Central States. It is apparently spreading slowly westward and southward, having been found for the first time as far south as Carbondale, Illinois, this spring.

The Mexican bean beetle made its appearance in the field in North Carolina on May 21 and in Alabama on April 12. Up to the 15th of May, only 1.8 per cent of the beetles had emerged in the hibernation cages at Birmingham.

The striped cucumber beetle is now seriously infesting cucurbitaceous plants in the lower Mississippi Valley.

An insect tentatively determined as Chilo simplex Butl. has been reported from the Island of Oahu in the Hawaiian Islands. This is a well-known rice pest of the Orient, where it is effectively controlled by an egg-parasite.

Brood II of the periodical cicada is emerging according to schedule throughout the Middle Atlantic region, reports having been received from New York, New Jersey, Pennsylvania, Virginia, and North Carolina. The Virginia records are more extensive and complete than for any previous appearance of this brood.

The elm scurfy scale is being reported in unusual abundance in the East Central and North Central States and in Nebraska.

The pine leaf miner is becoming rather troublesome in eastern Massachusetts and Rhode Island. In some localities the trees are already brown from infestations from this pest.

Argyroploce abietana is being reported from northern and western Michigan and it seems to be increasing throughout the entire State.

Damage by termites is being reported from Indiana and Kansas.

GENERAL FEEDERS

WHITE GRUBS (Phyllophaga spp.)

- Massachusetts A. I. Bourne (May 21): The first specimens of May beetles were observed on May 12. However, as yet they are not present in any abundance.
- Pennsylvania H. N. Worthley (May 11): Adult beetles turned up in plowing during the last week in April at State College, Appearing in small number by May 1. Abundant about light by May 10.
- Indiana J. J. Davis (May 5): White grubs have been reported abundant in soil at New Carlisle, LaGrange, Washington, and Lagro.
- Iowa H. E. Jaques (May 8): I have just returned from a trip through some ten or twelve counties in southeastern Iowa and found evidence of damage from the white grubs very apparent, particularly to blue grass throughout much of the region. The cold weather has deferred the flight of May beetles this year. They were first out on the night of May 1. The following night there was a rather heavy flight but only scattered individuals have been seen since. (May 29): White grubs of Brood A are found to be still active in some of the corn fields and reducing the stand.
- Missouri L. Haseman (May 24): June beetles have been unusually abundant during the month; on the other hand, larvae seem less abundant than a year ago and practically no farmers have complained of them.

WIREWORMS (Elateridae)

- New York Weekly News Letter, N. Y. State College of Agriculture, May 28, 1928. Wayne County (E. E. Frane): Wireworms are numerous, as many as 35 having been found around a single cabbage plant.
- Rhode Island A. E. Stene (May 23): Wireworms have been destructive to sweet corn in some sections of the State, as many as 10 to 20 grubs to a hill being quite common. One grower reports that birds are digging up hills and eating worms but leaving the sprouted corn.
- Indiana J. J. Davis (May 26): Wireworms were reported destructive to corn near Liberty, May 21.
- Missouri L. Haseman (May 24): Next to corn billbugs and flea beetles, the wireworms have been the most troublesome pest attacking the young corn.

Kansas J. W. McColloch (April 18): Wireworms are reported injuring corn on very rich bottom ground at Wheaton.

CUTWORMS (Noctuidae)

Massachusetts A. I. Bourne (May 21): The black army cutworms Agrotis fennica Tausch. and A. unicolor Walk., which were especially injurious to early vegetables at this time last year, are very scarce in this vicinity this spring (Amherst).

Connecticut M. P. Zappe (May 22): Cutworms are causing considerable injury to opening grape buds. In many cases fruit-bearing shoots have been entirely eaten away, at South Glastonbury.

W. E. Britton (May 24): Cutworm injury reported to me by Mr. A. E. Wilkinson, Vegetable Extension Specialist. Several growers are using bait of poisoned-bran mash. Reported from Canterbury, Norwich, Brooklyn, Killingly, Hampton, and Woodstock.

North Carolina R. W. Leiby (May 4): Correspondence indicates that garden cutworms are more destructive than usual.

Indiana J. J. Davis (May 26): The glassy cutworm Hadena devastatrix, was reported damaging Delphiniums at Tipton May 21.

Michigan R. H. Pettit (May 19): Some kind of a cutworm has recently appeared at Hart and at East Lansing. It works on asparagus from the level of the ground down for about 4 inches and above ground for 2 or 3 inches, gnawing deep pits and ruining the sprouts. It is serious enough to have practically destroyed 2 acres of asparagus in one field. A goodly quantity of these larvae are now in a cage awaiting development into the adult condition.

Missouri L. Haseman (May 24): Fewer complaints than usual have been received from farms regarding cutworms. This season has apparently not been favorable for cutworm injury.

Mississippi R. W. Harned (May 29): Cutworms tentatively determined by Mr. J. M. Longston as Lycophotia margaritosa were collected on cabbage plants at Lexington May 11, and on sweet potato plants at Oxford May 21. Very little damage has been caused. Feltia malefida were also collected in corn and soybean fields at Yazoo City April 26. Little or no damage was noted at this time.

California J. C. Elmore (May 25): Cutworm damage has been noticeable this year but very much less than last year at Garden Grove, Orange County. Land that was flooded last year was very heavily infested with cutworms. This year the same land was lightly infested.

CEREAL AND FORAGE - CROP INSECTS

WHEAT WIREWORM (Agriotes mancus Say)

Maine

J. H. Hawkins (May 7): It is interesting to note that our usually most destructive species, Agriotes mancus Say, was not nearly so abundant during 1927 as during 1928, while an upland type, Melanotus sp., was more abundant than usual.

In one locality A. mancus was very abundant during a warm spell in April and was present until corn was planted in June. After a wet cold spell during June the numbers were greatly diminished and they did not appear in quantities great enough to do much damage during the season. We have been at some loss to account for this disappearance unless some sort of a fungus disease may have killed the larvae. Material kept in flower-pots was not affected either by animal or fungus parasites and no evidence of either was found in the fields.

A FLEA BEETLE (Chrysomelidae)

Indiana

J. J. Davis (May 26): A small black undetermined species of flea beetle was reported damaging corn at Connersville, Fayette County, May 24.

Missouri

L. Haseman (May 24): A small black flea beetle, not yet identified, has been attracting attention throughout the northern half of the State, where it is working great destruction on the young corn.

CONVERGENT LADYBEETLE (Hippodamia convergens Guer.)

Oregon

Don C. Mote (May 11): Ladybird beetles, Hippodamia convergens Guer., are reported by Mr. Thompson, Mr. Wilcox, and others as being unusually abundant and widely disseminated.

FALL ARMYWORM (Laphygma frugiperda S. & A.)

Louisiana

T. E. Halloway and W. E. Haley (May 17): Large larvae of Laphygma frugiperda were found injuring young corn in St. Charles Parish.

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

Indiana

J. J. Davis (May 26): Received report with specimens of wheat heavily infested with spring brood of fly, larvae and flaxseed being present and as many as 16 being found to a single stalk. Ten acres sowed the last week in September badly infested. Remaining 25 acres sowed later (after October 1) was reported apparently uninjured.

- Illinois W. P. Flint (May 17): Eggs of the Hessian fly were found in considerable numbers in wheat fields during the week of April 22, in central Illinois. Flies were observed ovipositing at several points in the State during this week.
- Winter wheat has been killed out to such an extent that in many localities there will not be a field of winter wheat for several miles. This possibility will have some effect in reducing numbers of the fly next fall.
- Kansas J. W. McColloch (May 22): Dr. E. G. Kelly tells me that in his work over the State he finds that there is quite a bit of infestation by the Hessian fly, but that the infestation is spotted, due probably to the snows and sudden drops in temperature in April.
- Nebraska M. H. Swenk (April 15-May 15): Reports from Saunders County received early in May indicate that there is a general, but not heavy, infestation with the Hessian fly in that county this spring.

CHINCH BUG (Blissus leucopterus Say)

- Illinois J. H. Bigger (May 11): Surveys in several counties indicate generally slight damage to be expected in the central part of the State. Occasional fields show enough bugs to cause local damage. Adults are flying.

GREEN BUG (Toxoptera graminum Rond.)

- Kansas J. W. McColloch (May 22): There seems to be a general infestation of the green bug throughout central Kansas, but there has been very little actual injury. A few fields in the neighborhood of Lindsburg are reported to have suffered some loss.

LEAFHOPPERS (Deltoccephalus balli Van D. and Agallia sanguinolenta Prov.)

- Nebraska M. H. Swenk (April 15-May 15): From southwestern Nebraska reports have been received during late April and early May of an abundance of leafhoppers in the winter wheat fields. The attack of these insects, supplemented by the effects of the prevailing dry weather, has resulted in considerable damage in some fields, even to some loss of the plants. In Keith County the prevailing species was found to be Deltoccephalus balli. In Hitchcock County the prevailing species was Agallia sanguinolenta.

CORN

EUROPEAN CORN BORER (Pyrausta nubilalis Hbn.)

- Huam Corn Borer Control Extension Service (May 12): They have the corn borer way out where Guam is and have recently imported

1,700 parasites reared as far as the spin-up stage in the laboratory at Monroe, Mich. These parasites (Exeristes roborator Fab.) withstood the long journey in cold storage, arrived in good condition, and on emergence were liberated in the infested fields of the island, reports Dr. Philip Luginbill, in charge of the Monroe Laboratory.

CORN EAR WORM (Heliothis obsoleta Fab.)

Mississippi

E. L. Cockerham (May 26): This insect was found damaging corn about the 10th of May and on May 23rd was found injuring tomatoes. Earlier in the season this species did some damage to gladiolus blossoms at Biloxi.

P. K. Harrison (May 17): Numerous complaints have been received but damage has been slight except in 1 five-acre field and 1 1-acre field of beans at Picayune. In these two fields the damage was rather heavy.

Louisiana

W. E. Hinds (May 28): The occurrence of Heliothis obsoleta is much more rare in fields of corn this season than in 1927. There has been practically no complaint of this insect attacking tomato fruit as usually occurs at this season.

ARMYWORM (Cirphis unipuncta Haw.)

Indiana

J. J. Davis (May 26): L. F. Steiner reported the collection of 50 or 60 armyworm moths in his codling-moth bait-pans at Bedford May 22.

SOD WEBWORMS (Crambus spp.)

Indiana

J. J. Davis (May 26): Webworms have been very destructive to corn from reports and specimens received between May 17 and present date from Union, Fayette, Boone, Henry, and Carroll Counties.

Iowa

H. E. Jaques (May 29): Sod webworms are also damaging corn in sod ground broken last year.

SEED-CORN MAGGOT (Hylemyia cilicrura Rond.)

Kansas

J. W. McColloch (April 28): Seed corn maggots are reported as destroying an entire field of corn at Burlington.

SUGARCANE BEETLE (Euethola rugiceps Lec.)

Louisiana

W. E. Hinds (May 28): The rough headed corn stalk beetle has done serious injury to stands of corn and cane, especially in the southern part of the State. This pest seems to be increasing its range and destructiveness from year to year. It damages rice also.

Texas F. L. Thomas (May 10): Adult sugarcane beetles were destroying corn on well drained land which has been in cultivation many years at College Station.

A WIREWORM (Monocrepidius lividus DeG.)

North Carolina J. N. Tenhet (May 14): A one-eighth acre field of corn slightly damaged at Chadbourn.

CORN BILLBUGS (Sphenophorus spp.)

North Carolina J. N. Tehnet (May 16): One 10-acre field at Chadbourn damaged by the curlew bug, Sphenophorus callosus Cliv., over 50 per cent necessitating replanting. Other near-by fields, totaling 25 or 30 acres, damaged from 10 to 25 per cent.

Ohio T. H. Parks (May 24): Sphenophorus zeae Walsh is destroying fields of corn in several central Ohio counties. Damage is confined largely to fields in timothy sod last year. Some farmers have replanted because of the damage which began about May 15.

Indiana J. J. Davis (May 26): During the past week serious losses have resulted to corn from the billbug (Sphenophorus zeae, Satterthwait det.). The first reports came May 18 and have continued to date. The localities where heavy infestations occur include the following counties, Tippecanoe, Carroll, Boone, Clinton, Howard, Tipton, Madison, Fayette, Wayne, Fountain, Union, and Johnson. Specimens were received from all of these counties and all were S. zeae. The dying out of clover a year ago seems to be the indirect cause of this trouble because in practically all cases corn fields infested this spring had a heavy stand of timothy in 1927 after the clover died out.

Iowa H. E. Jaques (May 29): Billbugs of at least two species Sphenophorus parvulus and S. zeae, are causing considerable damage to corn in Henry and Lee Counties.

Missouri L. Haseman (May 24): A great many farmers have complained of billbugs the last half of the month in central and northern Missouri. Calendra zeae was unusually destructive during the last half of the month in central and northern Missouri. Calendra parvula Gyll. was unusually destructive during the last half of the month in central and northern Missouri.

CORN FLEA BEETLE (Chaetocnema pulicaria Melsh.)

Ohio T. H. Parks (May 24): Corn flea beetles have been discovered on young corn and have badly damaged the first planting on fields preceded by timothy sod. Some corn will have to be planted over in some of the central counties. Beetles more abundant than in an average year.

A CARABID (Scarites subterraneus Fab.)

Texas

J. N. Rovey (April 25): The grub of this insect was found attacking seed corn after being planted near Beaumont.

GRAPE COLASPIS (Colaspis brunnea Fab.)

Illinois

J. H. Bigger (April 30): Damage to corn is not expected to be very great this season in the western part of the State. Weather has permitted all ground to be plowed early. Control was obtained by farmers without their definite knowledge in most cases.

ALFALFA AND CLOVER

PEA APHID (Illinoia pisi Kalt.)

North Carolina

C. H. Brannon (May 21): This insect has completely destroyed about 15 acres of vetch in Moore County.

Indiana

J. J. Davis (May 26): The pea aphid was reported as widespread and destructive to alfalfa in Elkhart County. Much damage had already been done when reported May 23. The same aphid was reported May 21 from LaGrange County. In both cases alfalfa was the crop attacked.

Wisconsin

J. E. Dudley Jr. (May 26): The pea aphid is slightly more abundant than the average year for this time of the year. There were 5,600 aphids collected by aphidozer from 7,500 sq. ft. of alfalfa in Columbia County. Coccinellids were abundant, 33 being collected with the aphids, and probably not more than half recovered. Syrphids were very few, Chrysopids just appearing, and Nabis ferus light. From April to May 21, 245 Coccinellids, practically all Adalia bipunctata, were collected in the summer laboratory, where they were attempting to escape. Many were also observed in outbuildings which were not tight enough to prevent gradual escape of the insects.

Kansas

J. W. McColloch (May 30): The pea aphid caused considerable damage to alfalfa following freezes in April. Reports of injury were received from McFarland, Abilene, Maple Hill, Wellington, Wichita, and Manhattan. On May 16 injury to clover was reported from Olathe.

Utah

G. F. Knowlton (May 10): Pea aphids are becoming rather abundant on alfalfa throughout Salt Lake, Weber, and Cache Counties.

LESSER CLOVER LEAF WEEVIL (Phytonomus nigrirostris Fab.)

Illinois

J. H. Bigger (May 15): Observations at present indicate that there will be severe losses of clover seed caused by the lesser clover leaf weevil.

SALT-MARSH CATERPILLAR (Estigmene acrea Drury)

Texas

F. L. Thomas (May 3): These worms are quite numerous now and are almost sure to work on cotton later in the region around Bay City, Matagorda County.

THRIPS (Thysanoptera)

Wisconsin

J. E. Dudley, Jr. (May 26): These insects are extremely abundant on alfalfa, over 14,000 having been caught with the aphidozer from 7,500 sq. feet of alfalfa in Columbia County.

Mississippi

R. W. Harned (May 29): Injury to roses by thrips has been prevalent throughout the State this spring.

ARMY CUTWORM (Chorizagrotis auxiliaris Grote)

Kansas

J. W. McColloch (April 25): The army cutworm was reported injuring alfalfa in a number of fields at Rydal.

F R U I T I N S E C T S

APPLE

APHIDIDAE

Massachusetts

A. I. Bourne (May 21): Up to the present time there are apparently very few orchard plant lice. I reported this fact in my letter and have had no report thus far from any section of the State to contradict the statement.

Connecticut

M. P. Zappe (May): Very few aphids can be found anywhere except in one orchard in Unionville County. This orchard has a good infestation of aphids started. Second generation being produced. Less abundant than in an average year.

New York

C. R. Crosby and assistants, abstract from Weekly News Letter N. Y. State College of Agriculture, May 14, 1928: Reports from Suffolk, Columbia, Chautauqua, Fredonia, Erie, Genesee, and Niagara Counties indicate that aphids in general are extremely scarce, the few observed being the apple grain aphid.

Georgia

Oliver I. Snapp (May 19): Aphids are more abundant this year than usual at Fort Valley. Our spring has been cool with much rain.

- Ohio T. H. Parks (May 24): Plant lice are quite scarce on vegetable and fruit trees thus far this spring.
- Indiana J. J. Davis (May 5): Apple aphids were abundant early; they seem to have been fairly well checked in most orchards, although in some orchards they are threatening.
- Bennet A. Porter (May 19): Apple aphids have been only moderately abundant thus far this season in the vicinity of Vincennes.
- Illinois W. P. Flint (May 17): Aphids continue to be very scarce in nearly all of the apple orchards of the State. There has been a slight increase during the past two weeks.
- Oregon Don C. Mote (May 11): Apple aphids reported by Mr. Wilbur to be late in making their appearance. Very few of them noted up to May 8.

APPLE APHID (Aphis pomi DeG.)

- New Jersey D. W. Webb (May 21): The apple aphid was reported on rose, apple, etc., at Pennington.
- Indiana Bennet A. Porter (May 19): Green apple aphids have been present since the buds opened in the vicinity of Vincennes.

ROSY APPLE APHID (Anuraphis roseus Baker)

- New York C. R. Crosby (May 12): In western New York the actual number of stem mothers is rather low, but when compared with the other species (grain and green) the percentage is high. In the Hudson Valley the number of rosy aphids is rather low.
- Indiana Bennet A. Porter (May 19): The rosy apple aphid was first observed on May 15, and a few light infestations have been observed since in the vicinity of Vincennes.

WOOLLY APPLE APHID (Eriosoma lanigerum Hausm.)

- Missouri L. Haseman (May 24): During the week of May 20 some young apple orchards in central Missouri showed severe infestation of the woolly aphid, particularly on the trunks and limbs.
- Mississippi R. W. Harned (May 29): Specimens of this insect were collected at Holly Springs April 17, and May 9, and on apple from Kosciusko, May 10.

APPLE GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

- New York Weekly News Letter, N. Y. State College of Agriculture, May 14, 1928. Columbia County (A. B. Buchholz): Aphids on apples can be found on close examination, but they are not plentiful and are mostly the grain aphids.

Indiana Bennet A. Porter (May 19): Light infestations of the apple grain aphid in the vicinity of Vincennes.

CODLING MOTH (Carposcalia pomonella L.)

New York Weekly News Letter, N. Y. State College of Agriculture, May 14, 1928. Chautauqua County (G. H. Salisbury): None of the codling moth larvae observed have yet begun the pupal stage, although it is about time.

Ohio T. H. Parks (May 24): Moths commenced to emerge at Chillicothe May 18, and at Delaware May 21. Very few have emerged at this date (May 24).

Indiana J. J. Davis (May 5): Codling-moth emergence will be much later than usual according to present indications. (May 26): The first moths issued at Bedford in the southern part of the State May 16, according to the record of L. F. Steiner. The first eggs were observed May 17. None had hatched to date and there may be a few days delay from normal because of the cool weather prevailing the past few days.

Bennet A. Porter (May 19): On account of the general lateness of the season, codling-moth emergence is unusually late this year, although with reference to apple blooming emergence is about on schedule. The first moths appeared in the insectary at Vincennes on May 14.

Illinois W. F. Flint (May 17): The codling moth started emerging in southern Illinois in Mr. Chandler's cages on May 9, and in out-of-door cages in central Illinois on May 10. Eggs were found on apple in central Illinois on May 16. Weather conditions, on the whole, have been favorable to egg laying since the start of moth emergence.

Georgia E. Lee Worsham (May 21): Codling moths are emerging rapidly and have commenced laying eggs. The eggs are expected to hatch about May 12 to 14. The peak of spring brood egg deposition is expected between May 15th and 20th, this year. The Georgia State Board of Entomology is planning to introduce about 400,000 egg parasites, Trichogramma minutum Riley, from California in time to catch the peak of egg deposition.

Missouri L. Haseman (May 24): The first adult codling moths emerged on practically the same date in southern Missouri, central Missouri, and northwestern Missouri, namely, May 9 and 10. In southwestern Missouri they are emerging slowly, with the likelihood of a long-drawn-out emergence. At Columbia 50 per cent of the moths were out by May 21. In northwestern Missouri on the same date only 14 per cent of the moths emerged. The first eggs at Columbia were observed on the 17th, and in west-central Missouri fresh eggs were collected on the 20th. On the 24th no eggs had hatched.

Washington

E. J. Newcomer (May 26): The weather at Yakima during May has been warmer than any May for some years, the maximum temperatures for the last three weeks have ranged from 75 to 98, and as a result, codling moths have been emerging in large numbers and egg deposition is much heavier than usual. This may result in a higher percentage of wormy apples this fall than normal.

FRUIT TREE LEAF ROLLER (Archips anayrospila Walk.)

New York

C. R. Crosby and assistants, abstract from Weekly News Letter, New York State College of Agriculture, May 14, and May 28, 1928: During the first week in May leaf rollers were observed hatching in Columbia, Greene, Ontario, Wayne, Monroe, and Niagara Counties, and were found in abundance in Broome, Onondaga, and Chautauqua Counties by last of May.

CIGAR CASE BEARER (Coleophora fletcherella Fern.)

New York

Weekly News Letter, N. Y. State College of Agriculture, May 14, 1928: Genesee County (R. L. Payne): The cigar case bearers are present in large numbers in a few orchards and have been causing some injury to the young foliage.

PISTOL CASE BEARER (Coleophora malivorella Riley)

New York

C. R. Crosby (May 12): Pistol case bearers are appearing on the buds generally throughout the State in a little more than the usual numbers. In Onondaga County they are abundant in one cherry orchard.

Weekly News Letter, N. Y. State College of Agriculture, May 14, 1928: Erie County (M. N. Taylor): There was a considerable infestation of pistol case bearers on apple this year.

CASE BEARERS (Coleophora spp.)

New York

C. R. Crosby and assistants, abstract from Weekly News Letter, N. Y. State College of Agriculture, May 14 and May 28, 1928: Reports from Genesee, Broome, and Monroe Counties indicate that case bearers are threateningly abundant. Reports of their presence have also been received from Fredonia and Columbia Counties.

EYE-SPOTTED BUD MOTH (Spilonota ocellana Schill.)

New York

C. R. Crosby and assistants, abstract from Weekly News Letter, N. Y. State College of Agriculture, May 14, 1928. Reports from Ontario, Onondaga, and Ulster Counties indicate that severe injury has already been done by this insect. Damage is anticipated in Monroe County, and the insect is also reported from Erie and Columbia Counties.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

Massachusetts

A. I. Bourne (May 21): The eastern tent caterpillar, as the season advances and the insect becomes conspicuous, does not appear to be quite so abundant as last year throughout the State as a whole. We again made some observations on the rate of parasitism for the section around the college and from a total of 8,000 eggs which were examined we found a parasitism of between 12 and 13 per cent. This is a substantial increase over the degree of parasitism which was observed last year.

John V. Schaffner, Jr. (May 24): First hatch of tent caterpillars reported at Melrose on April 8. Hatching not general until about two weeks later. Infestations spotty. Abundant in some localities, especially in neglected orchards and on wild black cherry.

Connecticut

W. E. Britton (May 24): Tent caterpillar nests fairly abundant in some localities and rather scarce in others. Reported from New Haven. Less abundant than in an average year.

Rhode Island

A. E. Stene (May 23): The season in Rhode Island has been cold and backward and insect development has been slow. Tent caterpillars hatched 10 days or two weeks ago in some parts of the State but in other sections near the ocean they are just beginning to hatch. In no case have they become very active. A normal occurrence of the tent caterpillars may be expected.

New York

C. R. Crosby and assistants, abstract from Weekly News Letter, New York State College of Agriculture, May 14, and 23, 1928: Eastern tent caterpillar eggs were hatching the first and second weeks in May and the larvae are now getting back into the large crotches of the trees. Reports have been received from Chautauqua, Ontario, and Genesee Counties.

New Jersey

D. W. Webb (May 18): Damage slight at present, but tents seemingly numerous again this year.

Mississippi

R. W. Harned (May 29): Injury to plum and cherry by Malacosoma americana was reported from Tate County April 19 and 24.

CANKERWORMS (Geometridae)

Kansas

J. W. McColloch (May 11): Defoliation of fruit and shade trees by cankerworms is reported from Lincoln.

SPRING CANKERWORM (Palaeocrita vernata Peck)

New York

Weekly News Letter, N. Y. State College of Agriculture, May 14, 1928: Orange County (Sidney Jones): A larva of the spring cankerworm was found on May 7.

Pennsylvania H.N. Worthley (May 12): Eggs laid on apple twig on April 19. Hatched May 11. Larvae invading opening blossoms and unfolding leaves.

Missouri L. Haseman (May 24): Light infestations throughout central Missouri of spring cankerworms developed during the month, and in breeding experiments most of the worms were full-fed and in the soil by May 18.

FALL CANKERWORM (Alsophila pometaria Harris)

Connecticut W. E. Britton (May 24): Eggs have now hatched, though fully two weeks later than usual, and the young larvae are now feeding upon the leaves at New Haven.

LEAFHOPPERS (Jassidae)

Massachusetts A. I. Bourne (May 21): Leafhoppers are slightly more abundant than plant lice but considerably below normal. In fact, throughout most sections there was so little plant-louse and leafhopper infestation that growers did not find it necessary to employ nicotine in any of the pre-blossom sprays. Leafhoppers are beginning, however, to become somewhat more abundant so that we are recommending nicotine for our calyx sprays as a matter of precaution.

New York Weekly News Letter, N. Y. State College of Agriculture, May 14, 1928. Green County (A. S. Mills): Many nymphs of Typhlocyba pometaria are on apple leaves. These were first observed on May 7.

BLACK APPLE LEAFHOPPER (Idiocerus provancheri Van D.)

New York C. R. Crosby and assistants, abstract from Weekly News Letter, N. Y. State College of Agriculture, May 14, 1928: Black apple leafhoppers were first observed in Greene, Ulster, and Columbia Counties during the first week in May.

ROSE LEAFHOPPER (Empoa rosae L.)

Connecticut M. P. Zappe (May): Rose leafhoppers began hatching about May 15. Abundance about the same as in an average year.

BUFFALO TREEHOPPER (Ceresa bubalus Fab.)

Nebraska M. H. Swenk (May 15-April 15): Several complaints have been received during the period covered by this report of injury last season to the newer growth of apple, pear, plum, and peach trees by the buffalo treehopper.

APPLE REDBUG (Lyriidea mendax Reut.)

New York

C. R. Crosby and assistants, abstract from Weekly News Letter N. Y. State College of Agriculture, May 14, 1928: Apple redbug nymphs were observed for the first time this season in Ulster and Orange Counties on May 11 and 12.

APPLE TWIG BORER (Amphicerus bicaudatus Say)

North Carolina

C. H. Brannon (May 18): Apple twigs damaged by this insect were sent in by O. B. Jones, County Agent, Henderson County.

CYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

New York

Weekly News Letter N. Y. State College of Agriculture, May 14, 1928. Suffolk County (W. D. Deen): Nearly every orchard visited is severely infested with cyster-shell scale. This is probably due to the fact that concentrated lime sulphur is rarely used.

Indiana

J. J. Davis (May 5): Many inquiries have been received about the oyster-shell scale. These reports came largely from the northern half of Indiana.

South Dakota

H. C. Severin (May 14): Our worst insect in South Dakota. Apple, pear, lilac, cottonwood, willow, and many other trees are badly attacked in the eastern part of the State.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Indiana

Bennet A. Porter (May 19): Winter mortality has been unusually high. Counts in a neglected apple orchard near Vincennes on April 6 showed less than one-half of 1 per cent alive. Counts in a commercial peach orchard February 9 showed 38 per cent alive. At that time the orchard was sprayed, making it impossible to make a final mortality count.

ROUND-HEADED APPLE TREE BORER (Sagorda candida Fab.)

Illinois

W. P. Flint (May 17): More than the usual number of reports of injury by the round-headed apple tree borer have been sent in during the past month.

A FLAT-HEADED BORER (Agrilus sp.?)

Nebraska

M. H. Swenk (April 15-May 15): Specimens of apple twigs showing borings by a species of Agrilus resembling the work of the sinuate pear borer were received from Douglas County on April 30.

APPLE CURCULIO (Tachypterellus quadriaibbus Say)

Missouri

L. Haseman (May 24): In west-central Missouri apple curculios were active during the week of May 13 and collections made on the 20th contained freshly laid eggs.

EUROPEAN RED MITE (Paratetranychus pilosus C. & F.)

Massachusetts

A. I. Bourns (May 21): European red mites were found in this section (Amherst) to be hatching on the 6th to 8th of May. This pest is bearing out the early-season predictions of being fully as abundant throughout the State as it has ever been.

Connecticut

Philip Garman (May 23): Mites passed the winter well and hatched in considerable numbers in New Haven County.

New York

C. R. Crosby and assistants, abstract from Weekly News Letter, N. Y. State College of Agriculture, May 14, 1928: Red spiders were hatching quite generally over the State during the week of May 7 to 14. Reports have been received from Ontario, Wayne, Monroe, Niagara, Orange, Columbia, and Suffolk Counties.

Virginia

W. S. Abbott (May 12): Many eggs found at Oakton. Eggs were found in this orchard in 1926, but none in 1927.

Nova Scotia

Excerpt from Review of Commerce and Industries for the month of April 1928, Consul Erik W. Magnuson (May 7): Consul Willson at Yarmouth, Nova Scotia, states that Bulletin No. 4 of the Nova Scotia Fruit Growers Association announces that insect development is nearly three weeks earlier than last year, and that action against red mite and bud moth should be advanced accordingly.

PEAR

PEAR PSYLLA (Psyllia pyricola Foerst.)

Connecticut

Philip Garman (May 23): The pear psylla is appearing in abundance in some orchards at Wallingford.

New York

C. R. Crosby and assistants, abstract from Weekly News Letter, N. Y. State College of Agriculture, May 14, 1928: The pear psylla is apparently abundant throughout central and eastern New York. Egg laying is fairly well completed and nymphs could easily be found the second week in May. Reports have been received from Orange, Ulster, Onondaga, Erie, Genesee, Ontario, and Monroe Counties. C. R. Crosby (May 12): Eggs have been deposited abundantly generally throughout the State, but in the western part of the Lake Ontario fruit belt they are not quite so abundant as elsewhere.

PEAR THRIPS (Taeniothrips inconsequens Uzel)

New York

C. R. Crosby and assistants, abstract from Weekly News Letter, N. Y. State College of Agriculture, May 11, 1928: The pear thrips is reported as doing slight damage in Greene, and Columbia Counties.

PEAR LEAF BLISTER MITE (Eriophyes pyri Pgst.)

New York

C. R. Crosby and assistants, abstract from Weekly News Letter N. Y. State College of Agriculture, May 14, and 28, 1928: Pear leaf blister mites are reported from Columbia, Ulster, Greene, Suffolk, Dutchess, Chautauqua, and Orange Counties, indicating that egg-laying by this insect was under way during the second week in May.

CALIFORNIA PEAR SAWFLY (Diphadnus californicus Marlatt)

Washington

R. L. Webster (May 10): Jay Perry, Horticultural Inspector for the State Department of Agriculture, reports severe damage in 120 acres of pears; trees being stripped of foliage in Paterson, Benton County.

PEAR MIDGE (Contarinia pyrivora Riley)

New York

C. R. Crosby and assistants, abstract from Weekly News Letter N. Y. State College of Agriculture, May 14 and May 28, 1928: The pear midge is reported as showing up in considerable numbers in the following counties: Columbia, Greene, Orange, and Ulster.

PEACH

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck.)

New York

Weekly News Letter, N. Y. State College of Agriculture, May 14, 1928. Fredonia (D. M. Daniel): The oriental fruit moth is pupating; two pupal cases from which moths had emerged were found on May 8.

Georgia

O. I. Snapp and H. S. Springle (May 19): The oriental fruit moth is very scarce in the Georgia peach belt this year (Fort Valley). To date we have found only a very few cases of injury from the insect. For some reason it has apparently suffered a marked setback in Georgia.

Ohio

T. H. Parks (May 24): Emergence of moths was taking place rapidly the week of May 7 to 11 in one of the peach orchards at Columbus badly infested last year. Emergence from pupal cases

on tree trunks was limited largely to trees which matured late varieties of peaches last fall. Location of pupae was not confined to near ground surface but scattered over trunk and even on older side branches. No feeding of larvae noticed yet.

PEACH TWIG BORER (Anarsia lineatella Zell.)

Mississippi R. W. Harned (May 29): Peach twigs that showed injury probably caused by the peach twig borer have been received from several localities during the past few weeks. Most of the complaints have come from the northern section of the State.

LESSER PEACH TREE BORER (Aegeria pictipes G. & R.)

Georgia O. I. Snapp and H. S. Swingle (May 15): Adults are now emerging in the orchard at Fort Valley.

GREEN PEACH APHID (Myzus persicae Sulz.)

Oregon Don C. Mote (May 11): The green peach aphid is reported by Mr. Wilbur to be later than usual this year. First noted on prunes in Umatilla County on May 2 and none found as yet on peach.

BLACK PEACH APHID (Amuraphis persicae-niger Smith)

New York Weekly News Letter, N. Y. State College of Agriculture, May 14, 1928. Orange County (Sidney Jones): The black peach aphid was found quite abundantly on young peach trees near Warwick.

Virginia W. S. Abbott (May 10): A heavy infestation on young peach trees is reported for the first time in six or eight years at Vienna.

TARNISHED PLANT BUG (Lygus pratensis L.).

New York C. R. Crosby and assistants, abstract from Weekly News Letter, N. Y. State College of Agriculture, May 14, 1928: The tarnished plant bug is reported as unusually abundant and doing considerable damage in Ontario, Wayne, and Niagara Counties. The insect is also reported as being observed in Chautauqua County.

Illinois W. P. Flint (May 17): Bugs have been found on peach at about the normal period, but in such small numbers that only a moderate amount of cat-facing is anticipated.

ROSE CHAFER (Macrodactylus subspinosus Fab.)

North Carolina R. W. Leiby (May 23): Several complaints of peach and apple foliage injury have been received recently. One correspondent at Raleigh reported the death of 15 three-weeks-old chickens from eating the adult beetles which were found upon dissection in their crop.

DOGWOOD BORER (Oanea tripunctata Fab.)

Texas F. L. Thomas (May 3): The dogwood borer was found entering the end of peach-tree twigs and tunnelling down the center of the twig into the main branch and on into the trunk of the tree, extending even to the tap root, at Crockett, Houston County, (Letter from J. C. Shoultz, County Agent.)

CHERRY

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Nebraska M. H. Swenk (April 15-May 15): Serious damage to cherry trees by the fruit-tree bark beetle was reported from Hamilton County during the third week in April.

PLUM

PLUM CURCULIO (Conotrachelus nemubar Hbst.)

Massachusetts A. I. Bourne (May 21): The first adults of the plum curculio were collected by jarring exocorments on plums here at the College (Amherst) on May 15. Prof. Whitcomb reports collecting the first specimens on May 11 in Middlesex County. He reports that this is three days earlier than the record in 1926 and six days earlier than in 1927.

Connecticut Philip Garman (May 24): Emergence is late this year; very few curculios having emerged in cages to date, and few or none being found on apple trees in New Haven County.

Georgia Oliver I. Snapp (May 7): The first matured curculio larvae entered the soil today to pupate. This is 25 days later than the first matured larvae were recorded in 1927. It is reasonably certain that there will be only one generation of the curculio in Georgia this year on account of the late appearance of larvae from peach drops.

Illinois W. P. Flint (May 17): The first curculios were jarred from peach trees on April 18, in southern Illinois, after all petals were off. They were not present in appreciable numbers, however, until shucks began to push off.

Missouri L. Haseman (May 21): Plum curculios in central Missouri began to oviposit during the week of May 6 and were still active during the week of May 20. Larvae in plums were from one-half to two-thirds grown on May 21.

RUSTY PLUM APHID (Hysteronura setariae Thos.)

Georgia O. I. Snapp (May 4): A heavy infestation of the rusty plum aphid has occurred in a plum orchard at Fort Valley, causing

the grower to spray with nicotine sulphate. (May 19): The rusty brown plum aphid infestation has become more general and heavier since my report of May 4. A number of complaints of damage from this insect have recently reached the laboratory. The infestation is apparently heavier than usual.

Mississippi

R. W. Harned (May 29): During the latter part of April Inspector F. P. Ansler, Gulfport, reported that there had been very little complaint in regard to plant lice among the truck growers on the Gulf Coast this spring. From other parts of the State, however, have come many complaints in regard to these insects. Perhaps the most abundant species has been the southern plum or rusty brown aphid Hysteroneura setariae. Specimens identified by Mr. A. L. Hamner as this species have been received from the following counties: Washington, Jackson, Marshall, Lauderdale, Tate, Noxubee, Holmes, Copiah, and Harrison.

Oregon

Don C. Mote (May 11): The prune aphid is reported by Mr. Wilbur to be later than usual this year. First noted on prunes in Umatilla County on May 2, and none found as yet on peach.

RASPBERRY

BLACK-HORNED TREE CRICKET (Oecanthus nigricornis Walk.)

Indiana

J. J. Davis (May 5): Eggs have been reported commonly from raspberry canes in central Indiana.

RASPBERRY FRUIT WORM (Byturus unicolor Say)

Indiana

J. J. Davis (May 26): Raspberry fruit worm adults Byturus unicolor were destructive to red raspberry May 21; black varieties were not attacked. This is the second year they have been destructive there.

Oregon

Don C. Mote (May 11): The raspberry fruit worm (Byturus spp.) adults were abundant on April 19, according to R. F. Wilbur, County Horticultural Inspector, Freewater, Oreg. At that time the first blossom clusters were unfolding from terminal shoots of raspberries. The adults were feeding on blossom clusters and leaves.

GRAPE

EIGHT-SPOTTED FORESTER (Alypia octomaculata Fab.)

Kansas

J. W. McColloch (May 14): Larvae of this insect were received from Gypsum with the information that they were injuring grape foliage.

GRAPE LEAF FOLDER (Desmia funeralis Hbn.)

Ohio E. W. Mendenhall (May 23): The grape leaf folder is present in Columbus and vicinity.

APPLE TWIG BORER (Amphicerus bicaudatus Say)

Nebraska M. H. Swenk (April 13-May 15): In the vicinity of Brownville, Nemana County, one of the important grape-growing districts of Nebraska, an abundance of the borer was reported during the third week in April.

CURRENT AND GOOSEBERRY

CURRENT APHID (Myzus ribis L.)

New York C. R. Crosby and assistants, abstract from Weekly News Letter, N. Y. State College of Agriculture, May 14, 1928: Current aphids are present but doing little damage in Orange and Greene Counties.

Ohio E. W. Mendenhall (May 17): Current bushes are infested again with the current aphid which is appearing generally throughout the State. This insect does considerable damage to currants in Ohio.

IMPORTED CURRENT WORM (Pteronidea ribesi Scop.)

New York C. R. Crosby and assistants, abstract from Weekly News Letter N. Y. State College of Agriculture, May 28, 1928: The imported current worm is making its appearance in Suffolk, Orange, and Chautauqua Counties.

Indiana J. J. Davis (May 28): The current worm was reported defoliating gooseberries at LaFayette. The larvae were nearly full grown May 24.

CURRENT FRUIT FLY (Epochra canadensis Loew)

Oregon Don C. Mote (May 11): The first adult was observed in our out-door rearing cage on May 5.

BLACK GOOSEBERRY BORER (Xylocrius agrassizi Lec.)

Oregon Don C. Mote (May 11): Adults have not yet emerged from hibernation (April 28) according to Mr. Wilcox. Evidently the cold rains have delayed emergence a month or more, compared with the time of emergence the two preceding years. On May 5 the first black gooseberry borer adults emerged.

PECAN

GALLS(Phylloxera spp.)

Mississippi

R. W. Harned (May 29): Phylloxera galls seem to be quite abundant on pecan trees this spring. Among those recently received and identified by Mr. A. L. Hamner are the following: Phylloxera devastatrix and Phylloxera caryaecaulis from Grace, and Phylloxera notabilis from McAdams.

PECAN CIGAR CASE BEARER (Coleophora caryaefoliella Clem.)

Mississippi

R. W. Harned (May 29): Specimens of the cigar case bearer were received from Durant on May 4. Medium injury to pecan was reported.

PECAN SESIA(Sesia scitula Harris)

Mississippi

R. W. Harned (May 29): Specimens of Sesia scitula from pecan trees were received from Isola, April 20.

HICKORY SHOOT CURCULIO (Conotrachelus aratus Germ.)

Mississippi

R. W. Harned (May 29): Pecan twigs showing injury that was probably caused by Conotrachelus aratus were received on May 11 from Lexington.

GIANT APHID(Longistigma caryae Harr.)

Mississippi

R. W. Harned (May 29): Specimens collected on pecan at Quitman May 5.

SAWFLIES (Tenthredindae)

North Carolina

C. H. Brannon (May 8): An undetermined species of sawfly is causing considerable damage to pecans in Martin County. Larvae of this insect collected on hickory at Raleigh.

CITRUS

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

California

Monthly News Letter, Los Angeles County Horticultural Commission, Vol. 10, No. 5, May 15, 1928: Following the recent finding of the citrus whitefly in a nursery at Arcadia, an inspection has been carried on and practically completed of all preferred host plants of this insect (sold from the infested nursery since December 1924) in so far as it was possible to trace them.

This work has been in charge of Deputy Wolff, who reports that as a result of these inspections five additional infestations were found, two of these in nurseries where plants were

being held for resale and the others at private residences. In two cases the infestation was discovered before any emergence of adults had occurred, so the destruction of the infested plants, immediately carried out, promises eradication. In the other three cases, however, some emergence had occurred and the treatment of adjoining hosts was necessary. All spraying in connection with these infestations has been carried out by the State Department of Agriculture under the supervision of D.B. Mackie. Three infestations found on properties adjacent to the original nursery infestation have been carefully treated, all infested plants being destroyed and all preferred host plants thoroughly sprayed.

Careful reinspections at regular intervals and repeated treatments, where necessary, will be continued until eradication has been secured.

ORANGE TORTRIX (Tortrix citrana Fern.)

Florida

J. R. Watson (May 28): The orange tortrix has been more severe than usual the past few weeks at Gainesville, some grovers reporting as much as 25 per cent of their oranges mined by this small caterpillar. Since the crop of young oranges is too heavy, the work of this insect will probably do little harm.

CITRUS RUST MITE (Eriophyes oleivorus Ashm.)

Florida

J. R. Watson (May 28): Rust mites are appearing on the young fruit in about the usual numbers for this time of year.

A MILLIPED (Myriapoda)

Florida

J. R. Watson (May 28): In several groves millipeds have been injurious to young citrus trees. In every case this was in groves where a heavy sod of Natal grass was plowed under. Millipeds are always abundant under the dead stems of Natal grass and when such grass is plowed under in the spring the millipeds are driven to the citrus trees. They feed on the tender foliage and bark, sometimes girdling a limb or trunk of a young tree. They prefer to feed on the dead bark at the cut end of a newly set citrus tree but having consumed that they will sometimes attack live bark.

FRUITS - CROP INSECTS

STRIPED FLEA BEETLE (Phyllotreta vittata Fab.)

Alabama

L. T. Brannon (May 12): This flea beetle is doing considerable damage to mustard, turnips, and radishes in the vicinity of Birmingham.

STRIPED BLISTER BEETLE (Epicauta lemniscata Fab.)

Florida

J. R. Watson (May 28): The southern striped blister beetle has been more numerous than usual the past month attacking not only potatoes, egg plants, and peppers, but Asparagus plumosus as well.

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Ohio

N. F. Howard (May 28): The potato beetle was found in the field on May 15 in southeastern Ohio.

Mississippi

P. K. Harrison (May 5): This insect is found in smaller numbers on Irish potatoes in Picayune and vicinity than for the last two years. To date the damage is negligible.

R. W. Harned (May 29): On April 16, Inspector R. B. Deen reported that the Colorado potato beetles were very numerous in potato fields in and near Tupelo.

STALK BORER (Epiprimum nebris nitela Guen.)

Indiana

J. J. Davis (May 26): H. K. Riley reports second instar stalk borers in tomato plants in out-of-door hot beds at Indianapolis May 17.

CABBAGE

IMPORTED CABBAGE WORM (Pieris rapae L.)

Mississippi

R. W. Harned (May 29): Specimens of the common cabbage worm were found on nasturtium plants at Yazoo City April 26.

South Dakota

H. C. Severin (May 14): The first butterflies of the season were seen May 1 at Brookings.

CABBAGE MAGGOT (Hyalemyia brassicae Bouche)

Massachusetts

A. I. Bourne (May 21): The first eggs of the cabbage maggot were seen at Waltham May 10. This is about the normal time for the first oviposition in this county.

New York

Weekly News Letter, State College of Agriculture, May 14, 1928. Suffolk County (T. D. Dean): Cabbage maggot flies were noticed the first time May 5, and on May 11 eggs could be readily found both in the seed bed and in the field. Warning cards on the cabbage maggot were sent out this week.

Pennsylvania

H. N. Worthley (May 12): After daily examinations for two weeks at the State College, the first eggs were found on May 12. Oviposition just beginning, as only one egg to 10 plants examined was found.

CABBAGE APHID (Brevicoryne brassicae L.)

Alabama

L. W. Brannon (April 19): This species of aphid is seriously damaging young cabbage plants in the vicinity of Birmingham.

Mississippi

R. W. Harned (May 28): Specimens collected on cabbage at Valley May 4, at Darent, May 9, and on turnips at Lexington, May 11, were sent to this office for determination.

HARLEQUIN BUG (Murgantia histrionica Hahn)

Alabama

L. W. Brannon (May 15): Adult harlequin bugs are fairly abundant in the vicinity of Birmingham and are damaging mustard and turnips in some instances. Egg masses are numerous in the fields. The first hatching of eggs was noted April 30 and second-instar nymphs are now numerous.

Mississippi

R. W. Harned (May 28): During the latter half of April three rather serious complaints in regard to the harlequin bug were received. At Yazoo City mustard and turnips were being injured. At Cockrum damage had been caused to mustard, spinach, and cabbage. At Rutliff damage had been caused to mustard.

CABBAGE CURCULIO (Centothyrus rapae Gyll.)

Kansas

J. W. McColloch (May 1): Damage to cabbage by this insect has been reported from Effingham.

Nebraska

H. H. Swank (April 15-May 10): During the last week in April a truck grower near Omaha lost about 10,000 young cabbage plants because of the attack of the cabbage curculio. This is the first time that the cabbage curculio has been found doing serious damage in Nebraska, so far as our records show.

STRAWBERRY

STRAWBERRY LEAF ROLLER (ancylis corutana Fröhl.)

Indiana

J. J. Davis (May 8): That was apparently the moth of the strawberry leaf roller and eggs were reported abundant at

Walkerton, according to a report dated May 2. Specimens were not submitted, but the facts that the description fitted and that the owner had a severe attack in an adjoining strawberry bed last year lead us to believe that the above record is correct.

STRAWBERRY WEEVIL (Anthonomus signatus Say)

Missouri

L. Hoseman (May 24): The strawberry weevil caused damage in old beds in St. Louis County during the fore part of the month. Weevils were busily at work during the week of May 6, laying eggs and cutting buds. On May 33 most of the larvae were full-fed and had pupated and one adult had emerged.

ASPARAGUS

ASPARAGUS BEETLE (Crioceris asparagi L.)

Massachusetts

A. I. Bourne (May 21): The common asparagus beetle appeared in large numbers May 17 in this locality (Amherst). It is abundant in fields where it was not controlled last year.

Ohio

T. H. Parks (May 24): The beetles are attacking young asparagus shoots in commercial plantings at Columbus. Eggs are now abundant but few have hatched.

Illinois

S. C. Chandler through W. P. Flint (May 17): Crioceris asparagi was found on asparagus with eggs on May 11 at Carbondale. The asparagus beetle is scarce in this section for some reason, although there is a large acreage in asparagus. This is the first record south of Alton.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Ohio

N. F. Hovard (May 22): The first Mexican bean beetle in the field in Ohio was found on May 15 at Gallipolis. Only one specimen was found in several acres. On May 24, a single beetle was found in the field at Caldwell, Noble County. No beetles have been found at Athens nor has there been any activity in hibernation cages containing large numbers of beetles at that place. At this time it appears that the survival is very low.

North Carolina

R. W. Leiby (May 22): The first authentic record of the bean beetle appearing on beans this season was sent to this office by assistant J. A. Morris on May 21, when it was observed in Moore County. Two more records of its presence were received by telephone at Raleigh on May 22. The demand for literature on the control of this pest has been unusually heavy during the

past four weeks, probably because beans have been planted and last year's losses are not forgotten.

C. H. Brannon (May 6): The first adult received from the field was sent in today by O. O. Dukes, County Agent, Robeson County, where it was found on beans.

Georgia

E. Lee Worsham (May 21): The Mexican bean beetle is unusually active this spring. They have passed the winter in large numbers and are doing much damage to string beans.

Alabama

L. W. Brannon (May 15): The first Mexican bean beetles of the 1928 season were found feeding in the field April 12. The season is about two weeks later than average. On April 16 a heavy frost occurred which severely damaged most patches of beans and completely killed other catches. This undoubtedly caused a setback in the emergence of beetles from hibernation. Only 1.8 per cent have emerged in the hibernation cage to date. The first egg masses were found in the field on May 4, and the first hatching of an egg mass was noted on May 14.

BEAN LEAF BEETLE (Carotoma trifurcata Forst.)

Alabama

L. W. Brannon (May 15): Adults of this species are doing more damage to beans than they were a month ago.

Mississippi

R. T. Harned (May 29): Many complaints have been received recently from Holmes, Pike, Lincoln, and Yazoo Counties in regard to the bean leaf beetle. In most cases garden beans had been injured by these insects but on April 26, Inspector Chesley Hines reported that a field of soybeans at Yazoo City had been riddled by this pest.

CUCUMBERS

STRIPED CUCUMBER BEETLE (Dibrotica vittata Fab.)

Ohio

N. F. Howard (May 29): The striped cucumber beetle was very numerous near Chillicothe May 29.

Missouri

L. Haseman (May 24): As usual this pest has begun its work on the young cucumbers and melons, and numerous complaints have been received during the month.

Mississippi

E. L. Cockerham (May 5): These insects were found to be seriously damaging squash on the above date. I have not seen these beetles more numerous in Mississippi in years. Since the above date, I have found them damaging squash, cantaloupes, cucumbers, and various other crops.

F. K. Harrison (April 24): These beetles were found in large numbers attacking squash in one field at Fick.

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Mississippi

R. W. Harned (May 29): Specimens of the striped cucumber beetle were received from Newton County on May 28, where they were reported as causing considerable damage to watermelon plants. Larvae belonging to the genus Diabrotica, and possibly to the species Diabrotica vittata, were received from Tillman May 14, with the report that watermelon plants had been injured by them.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Ohio

N. F. Howard (May 28): The 12-spotted cucumber beetle was found in the field on May 15 in southeastern Ohio.

Alabama

L. W. Brannon (May 15): These insects are not damaging beans at Birmingham to the extent that they were a month ago.

Mississippi

K. L. Cockerham (May 26): For several weeks this beetle has been very abundant in the southern part of Mississippi. Various crops, including corn, squash, cucumbers, melons, and beans have been attacked.

SQUASH

SQUASH BORER (Helittia satyriniformis Hbn.)

Mississippi

K. L. Cockerham (May 19): The first adult squash vine borer was seen today. This adult was a female and was actively engaged in depositing eggs on leaves of squash vines.

ONIONS

ONION MAGGOT (Hylemyia antiqua Meig.)

New York

C. R. Crosby (May 12): Flies began to emerge at Elba on May 5.

Kansas

J. W. McColloch (April 17): An infestation of this insect on onion was reported from Westmoreland.

Oregon

Don C. Mote (May 11): On April 27 Mr. Wilcox reported that the flies were out and had been in the field for some time, but because of successive rains and delayed plantings no injury has become apparent as yet.

BEETS

BEET LEAFHOPPER (Botettix tenellus Baker)

Utah

G. F. Knowlton (May 10): The beet leafhopper is present in

the beet fields around Ogden and Hooper, the beets in most cases being in the four-leaf stage. From five to twelve leafhoppers are usually found in examining 100 linear feet of row. (May 25): At the present time the beet leafhopper is more numerous than it was a year ago in most beet fields in Boxelder County, and in some fields in Weber County, especially at Hooper. Fewer leafhoppers are present at Farmington, Lehi, Provo, and Layton than at this time in 1927, but a few sugar beets at Provo are showing well developed symptoms of curly-top. They are very scarce in Cache County. Large numbers have been present all the spring on the breeding ground in the desert west of Snowville.

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

Utah

G. F. Knowlton (May 3): Black flea beetles are greatly retarding the development of some of the earliest fields of beets in the vicinity of Bear River City and at Tremonton. In one instance a field of 5 acres was plowed up and replanted because of the damage from this pest.

SWEET POTATO

SWEET-POTATO WEEVIL (Cylas formicarius Fab.)

Georgia

E. Lee Torsham (May 21): A thorough survey once each year for the past five years of a small area in the southern part of Charlton County has failed to show any evidence of the sweet-potato weevil.

TORTOISE BEETLES (Cassidinae)

Mississippi

E. W. Harned (May 28): On May 21, Inspector Chesley Hines sent to this office from Canton tortoise beetles representing the species, Chirida guttata, Metrioma bicolor, and Metrioma bivittata. They were causing serious injury to sweet-potato plants at that place. On May 25 he sent to us beetles representing the same species from Yazoo City. Only medium damage had been caused at the latter place. On May 17 he sent the species Metrioma bivittata and Coptocycla signifera from Adams County. He reported medium damage to sweet-potato plants by these beetles.

HORSE-RADISH

HORSE-RADISH FLEA BEETLE (Phyllotreta arvensis Koch)

Connecticut

R. R. Friend (May 10): Cabbages were planted in land occupied by horse-radish last year and was being extensively eaten by the adult flea beetles at Norwich.

Missouri

L. Haseman (May 24): Last spring and again this spring a number of horse-radish growers in St. Louis County have had trouble with the horse-radish flea beetle; on May 7 the beetles were actively feeding and ovipositing, and in older plants the half-grown larvae were already at work in the leaf stalks.

WESTERN GARDEN FLEA BEETLE (Phyllotreta pusilla Horn)

Nebraska

M. H. Swenk (April 15-May 15): During the second week in May reports of serious damage to young radishes by the western cabbage flea beetle were received from Kearney County.

PEPPER

PEPPER WEEVIL (Anthonomus eugenii Cano)

California

J. C. Elmore (May 25): The pepper weevil was found in a pepper field in midseason numbers (6 adults to 200 feet of row) which is unusual for this date at Norwalk. The weevils are to be found on nightshade in several localities in Los Angeles and Orange Counties.

EGGPLANT

EGGPLANT FLEA BEETLE (Epitrix fuscula Crotch)

Alabama

L. W. Brennon (May 11): This species of flea beetle has been doing considerable damage to young eggplants in the locality of Birmingham.

SERPENTINE LEAF MINER (Agromyza pusilla Meig.)

Nebraska

M. H. Swenk (April 15-May 15): During the third week in April an instance of young eggplants having been seriously injured by the leaf miner Agromyza pusilla was reported from Douglas County.

S O U T H E R N F I E L D - C R O P I N S E C T S

TORACCO

TORACCO BUDWORM (Heliothis virescens Fab.)

Florida

F. S. Chamberlin (May 16): The tobacco budworm is less abundant than is usually the case in May.

POTATO TUBER MOTH (Phthorimaea operculella Zell.)

Florida

J. R. Tatson (May 32): The tobacco split worm is doing con-

siderable damage in the central part of Florida mining the lower leaves of the tobacco.

TOBACCO WIREWORM (Monocrocidius vestertinus Fab.)

North Carolina J. N. Tenhet (May, 1928): Injury to tobacco from the tobacco wireworm is much less this season than last. Occasional fields are slightly damaged, but very few farmers are having any trouble in getting a "stand."

A GRASSHOPPER (Melanoplus sp.)

Florida F. S. Chamberlin (May 16): Infestations of Melanoplus on tobacco are less abundant than usual.

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana W. E. Hinds (May 26): Sugarcane borer survival of hibernation has been unusually light and first-generation development is comparatively rare on both corn and cane. First-generation larvae are just reaching full growth at Baton Rouge. This is very much later than the same development occurred in 1927. Trichogramma minutum is an important egg parasite on the cane borer and many other hosts in Louisiana. These parasites have been bred in large numbers during the winter on the eggs of Sitotroga cerealella produced in corn. Field colonization tests of this parasite are under way on first, second, and third generations of cane-borer eggs to determine the practicality and possibility of increasing the effectiveness of this active parasite in cane-borer control.

HAWAIIAN SUGARCANE BORER (Rhabdocnemis obscura Boisd.)

Hawaiian Islands O. H. Swezey (Report for 1927): The borer has been in the usual satisfactory control by the New Guinea technid (Caromasia sphenophori Vill.), except in a number of instances where mature cane has stood for a long time before harvesting, and the borers were working on the cane that was buried beneath an accumulation of dead leaves or trash, so that the infected canes were not accessible to the parasites. A considerable amount of loss has resulted thus. On one plantation the loss was estimated at \$200,000.

ARMYWORMS (Cirphis unipuncta Haw. and
(Spodoptera mauritia Boisd.)

Hawaiian Islands O. H. Swezey (Report for 1927): There is quite satisfactory control now in most places since the introduction of the parasites from Mexico in 1923. There are now at least eight valuable introduced parasites working on armyworms. Only two out-

breaks of any importance were reported during the year. These were of the nutgrass armyworm, (S. mauritia Boisd.) and the cane soon recovered from the setback received when young.

SUGARCANE LEAF-ROLLER (Onicides accepta Butl.)

Hawaiian Islands O. H. Swezey (Report for 1927): There has been no noticeable injury by this pest for a number of years.

ASIATIC BEETLE (Anomala orientalis Waterh.)

Hawaiian Islands O. H. Swezey (Report for 1927): Very rarely was a specimen of the beetle or grub met with. The introduced Phillippine wasp Scolia manilae Ashm. has kept it in controll

A WIREWORM (Monocrepidius exsul Sharp.)

Hawaiian Islands O. H. Swezey (Report for 1927): There was no trouble from wireworms. Perhaps this was due to non-planting of fields last year in the regions where wireworms were prevalent, as the injury by them is chiefly eating out the eyes of recently planted seed cane.

A MOLE CRICKET (Gryllotalpa africana Beauv.)

Hawaiian Islands O. H. Swezey (Report for 1927): Only in a few instances was there injury by this pest, in each case where cane was planted in wet or swampy regions infested by mole crickets which ate out some of the eyes of the cuttings so as to necessitate replanting. A parasite, Larra luzonensis Roh. has been introduced and is now well established. It will no doubt, in time bring about a reduction of damage by this pest.

A GRASSHOPPER (Oxya chinensis Thunb.)

Hawaiian Islands O. H. Swezey (Report for 1927): There were a few instances in which this grasshopper ate cane sufficiently to make a very ragged appearance and possibly made somewhat of a check to the cane. These were always where there was an abundance of nutgrass in the fields or along the roadsides and borders of fields.

AN APHID (Aphis sacchari Zehntner)

Hawaiian Islands O. H. Swezey (Report for 1927): There were no serious infestations. It was controlled by introduced ladybeetles, parasites, lacewing flies, and syrphid flies.

SUGARCANE LEAFHOPPER (Perkinsiella saccharicida Kirk.)

Hawaiian Islands O. H. Szezey (Report for 1927): No infestations of any importance came to our attention during the year. Most everywhere in the cane fields only an occasional leafhopper was to be found. In a few instances they became noticeably numerous but not abundant enough to be injurious. Their enemies soon increased so as to have the pest again reduced to scarcity. The chief enemies were Paranagrus optabilis and Ootetrastichus beatus, introduced egg parasites, and Cyrtorhinus mundulus, the small bug which sucks the eggs, introduced from Australia.

A MEALYBUG (Pseudococcus borinsis Kuwana)

Hawaiian Islands O. H. Szezey (Report for 1927): This mealybug is so completely controlled by Aphyucus ternyi as to be rarely met with. Trionymus sacchari Chll. generally prevalent as usual. The introduced ladybeetles on mealybugs do not attack this species to much extent, being so well secluded behind the leaf sheaths. No mealybug parasite works on this mealybug.

RICE

A PYRALID MOTH (Chilo simplex Butler)

Hawaiian Islands E. H. Van Zwaluwenburg (May 9): As you know, this is a new pest in these Islands (confined to Oahu as far as we know), which now appears to be the Japanese Chilo simplex Butler. This insect is said to confine itself to rice and was originally described from Formosa. It is certain that the Chilo called simplex in India is not the authentic C. simplex. There is the possibility, however, that Fletcher's Chilo oryzae of India is the simplex of Japan, Formosa, and now the Hawaiian group. Certainly Fletcher and Ghosh's figures of larvae, pupae, and adults of oryzae, are not distinguishable from the insect here. Their descriptions leave something to be desired, but the figures are pretty good. Since the pest was discovered here a specimen of Cremastus hymeniae Vier. has been reared from a cocoon taken in a Chilo tunnel in rice. This ichneumonid is a common parasite of Omiodes spp. and many other Lepidoptera. Fullaway and Hadden, in Japan, write that the egg parasite (name not mentioned) of simplex is very effective in that country.

F O R E S T A N D S H A D E - T R E E I N S E C T S

PERIODICAL CICADA (Tibicina septendecim L.)

New York

Mrs. G. H. Cisco (May 18): On our place, Bon Eden, Grymes Hill, Staten Island, there are evidences of the 17-year locust. I discovered the holes under a row of horse-chestnut trees.

Mrs. W. E. McArdell (May 23): The 17-year locusts are now coming out of the ground at Emerson Hill, Staten Island.

New Jersey

C. L. Lange (May 17): In the back yard of my home at 86 Central Ave., Glen Rock, I have found a great quantity of holes about one-half an inch in diameter and anywhere from 3 to 6 inches deep. On investigation I have been informed it is the 17-year locust.

New Jersey
and
Pennsylvania

C. A. Thomas (May 26): The periodical cicadas have not emerged at Bustleton, Pennsylvania, yet, although I have heard of them being found at Moorestown, New Jersey.

Pennsylvania

J. N. Knull (May 25): The first periodical cicada was found May 25 at Dauphin, Clark's Valley, but no general emergence. (May 30): Adults are numerous on vegetation at this place May 30.

Virginia

Max Fleisher (May 23): I wish to report that we have in this section (Gordonsville) the so-called plague of locusts. I never saw so many hollow grub shells and holes in the ground where they have come out, and the air is thick with locusts and their noise.

D. C. Peattie (May 20): The first adults (3 individuals) appeared May 20 and the numbers are increasing every day (Cherrydale).

Mrs. Eacho (May 23): The 17-year locusts are emerging in great numbers. I noticed them first May 19 at my home west of Fort Myer and south of Clarendon.

J. B. Rasbach (May 23): The 17-year locusts are emerging at my home at Accotink.

Leo Harlow (May 23): The 17-year locusts are emerging in great numbers at my home, 4 Virginia Ave., Jefferson Park, Alexandria.

U. S. Army Post, Quantico (May 23): The 17-year locusts are emerging in enormous numbers at Quantico.

W. C. Brewster (May 21): Adults are emerging in large numbers all over Lyon Park. They have been seen for about three days.

North Carolina

V. Harrison (May 28): I am enclosing under separate cover two specimens of the locusts. (Specimens sent from Wentworth).

GYPSY MOTHS (Eorthetia discus L.)

Rhode Island

A. E. Stone (May 28): The season in Rhode Island has been cold and backward and insect development has been slow. The gypsy moths hatched 10 days or two weeks ago in some parts of the State but in other sections near the ocean they are just beginning to hatch. In no case have they become very active. Some increase in gypsy moths is looked for, which, in view of last year's abundance, presents quite a problem.

BAGWORM (Hyridopterix echemeriformis Haw.)

Indiana

J. J. Davis (May 5): Bagworms have been frequently sent in from southern Indiana.

Nebraska

W. H. Sweenk (April 15-May 15): Beginning with the last few days in April and continuing through the first half of May, reports have been received of the start of injury to evergreen trees because of the presence of the bagworm. Several of these reports came from the vicinity of Lincoln.

GIANT APHID (Longistigma caryae Harr.)

Oklahoma

C. E. Sanborn (May 28): We have had a general infestation of one of the largest plant lice known, Longistigma. It has been locally dubbed the African mosquito, since it appears in the streets of cities something after the fashion of mosquitoes flying about.

It sometimes bites persons, although its food is the sap of trees, especially such forest trees as jack oak, sycamore, and maple. In addition to this, when numerous as it is now, it attacks many other trees and plants and becomes pestiferous to people. It has been more numerous this spring in Oklahoma than ever known before. This is due to the fact that cool weather prevailed last fall which was too cold for ladybugs to be active, yet not too cold for the existence of this plant louse. Sexes appeared and, as a result, eggs were laid by the thousands on such hosts as the black jack oaks in the forests. This insect will doubtless occur farther north and east as the season progresses.

IMBRICATED SHORT BEETLE (Leicurus imbricatus Say)

North Carolina

C. H. Brannon (May 18): This insect was reported as causing damage to various trees in Forsyth County.

FUTNAM'S SCALE (Aspidiotus encylus Futn.)

South Dakota H. C. Severin (May 14): Futnam's scale is a serious pest of apple, currant, gooseberry, elm, trembling aspen, etc., in eastern South Dakota.

BOXELDER

BOXELDER APHID (Periphyllus nemundinis Thomas)

Utah G. F. Knowlton (May 10): The boxelder aphid is abundant in northern Utah, and at the present time winged forms are beginning to appear.

ELM

ELM SCURFY SCALE (Chionaspis americana Johns.)

Indiana J. J. Davis (May 26): Mr. H. Riley reports that the scurfy scale on elm began hatching the first week in May at LaFayette.

South Dakota H. C. Severin (May 14): Many of the elms are becoming badly infested with this scale, being seriously damaged in the eastern part of the State.

Nebraska M. H. Srenk (April 15-May 15): Additional complaints of injury by the white elm scale, Chionaspis americana, were received during the period covered by this report.

EUROPEAN ELM SCALE (Gossyparia spuria Modeer)

Ohio T. H. Parks (May 24): This scale is abundant and injurious to young elms on the streets of Columbus. Damage to the trees appears to be severe.

E. T. Mendenhall (May 3): The European elm scale is very bad on elm trees in Dayton and vicinity.

MAPLE

WOOLLY ALDER APHID (Prociphilus tessellatus Fitch)

Mississippi E. T. Harned (May 29): Specimens collected on maple at Pontotoc on May 22.

NORWAY MAPLE APHID (Periphyllus lyropictus Kess.)

Mississippi R. W. Harned (May 29): Specimens collected on maple at Yazoo City on May 7, and identified by A. L. Hamner as probably Periphyllus lyropictus.

COTTONY MAPLE SCALE (Tolyraia vitis Feltov.)

Indiana

J. J. Davis (May 5): Many inquiries have been received about the cottony maple scale. These reports come largely from the northern half of the State.

PINE

A SAWFLY (Neodiprion dyari Roh.)

Massachusetts

J. V. Schaffner, Jr. (May 24): During 1927 this sawfly was unusually common in eastern Massachusetts and observations this spring indicate that it may be locally abundant this year. Apparently it passes the winter in the egg stage in this section. Eggs were hatching May 15.

PINE LEAF SCALE (Chionaspis pinifoliae Fitch)

South Dakota

H. C. Severin (May 14): Several complaints have been received during the past month. Pines in the Black Hills and also in windbreaks and lawns are sometimes infested.

Nebraska

M. H. Swack (April 15-May 15): Additional complaints of injury by the pine leaf scale were received during the period covered by this report.

Kansas

J. W. McCulloch (May 5): A heavy infestation of this scale has been found on blue spruce at Leavenworth.

PINE LEAF MINER (Perithous pinifoliella Chamb.)

Massachusetts

and
Rhode Island

J. V. Schaffner, Jr. (May 24): This leaf miner is very common on litch pine throughout eastern Massachusetts. In some localities trees are quite brown. Mr. T. H. Jones noted this insect as very common in Rhode Island and with a very heavy infestation at Charleston.

SILVER

A EUCCOSIID (Arctronloca abietana Varn.)

Michigan

E. I. McDaniel (May 22): We are receiving many samples of the spruce tortrix, Choristoneura abietana working on blue spruce. They are coming in numbers from the upper part of the western coast of the State and also from Livingston County and occasionally from all parts. The insect seems to be increasing in numbers all over the State.

INSECTS AFFECTING GREENHOUSE AND
ORNAMENTAL PLANTS AND LAWNS

GREENHOUSE LEAF TYER (Phlyctenia ferrugalis Hbn.)

- Connecticut W. E. Britton (May 24): Considerable damage is being done to various plants under glass and in cold frames and in dwellings: houses. Heliotrope at New Haven and chrysanthemum at Elmwood are being injured.
- New York Weekly News Letter, N. Y. State College of Agriculture, May 14, 1928: Fredonia County (D. M. Daniel): The greenhouse leaf tyer is beginning to appear in greenhouses.
- Ohio E. W. Mendenhall (May 24): The marigold plants in a greenhouse in Columbus were badly infested with the greenhouse leaf tyer.

BLACK VINE WEEVIL (Brachyrhinus sulcatus Fab.)

- Rhode Island A. E. Stene (May 23): A nurseryman has had considerable trouble this spring from Brachyrhinus sulcatus in greenhouse cutting beds of Texas.

RED SPIDER (Tetranychus telarius L.)

- Mississippi R. W. Harned (May 29): Violet leaves from Durant on May 12 and cedar twigs from Ocean Springs on May 4 were found to be infested with red spiders. Only medium injury had been caused to the plants.

SOYBUGS (Oniscidae)

- Mississippi R. W. Harned (May 29): A correspondent at Stephenson sent to us on May 24 some specimens of pillbugs with the report that they were causing serious damage to flowers.

CHRYSANTHEMUM

CHRYSANTHEMUM GALL MIDGE (Dierthronomyia hypogaea Loew)

- Ohio E. W. Mendenhall (May 25): The chrysanthemum midge is very bad in Springfield, where not treated properly. Some of the greenhouses where shipments are made are kept free from this pest.

CHRYSANTHEMUM APHID (Macrosiphoniella sanborni Gill.)

- Mississippi R. W. Harned (May 29): Specimens on chrysanthemum collected at Yazoo City April 26 and at Canton May 21 were sent in for determination.

DELPHINIUM

CYCLOPHEM MITE (*Tarsonemus pallidus* Banks)

Indiana

J. J. Davis (May 26): The cyclophem mite was reported very destructive to delphinium at Lebanon May 21. The correspondent reports that her delphiniums were similarly ruined a year ago.

GLADIOLUS

CORN EAR WORM (*Heliothis obsoleta* Fab.)

Mississippi

M. L. Cockerham (May 6): This insect was found doing rather serious damage to gladioli at Biloxi. The larvae eat the blossom buds inside the sheath, therefore the damage is at first not noticed, the larvae usually being concealed inside of the sheath.

IRIS

IRIS BORER (*Macronoctua onusta* Grote)

Ohio

E. T. Mendenhall (May 31): The iris borer is quite bad in Columbus and vicinity and is doing considerable damage to iris.

JASMINE

CITRUS WHITEFLY (*Dialeurodes citri* Ashm.)

Ohio

E. T. Mendenhall (May 12): The citrus whitefly was found infesting cane jasmine plants in one of the greenhouses in Springfield.

NARCISSUS

LESSER BULB FLY (*Eumerus strigatus* Fallén)

Ohio

E. T. Mendenhall (May 14): I find the narcissus plants in nurseries at Dayton and Lima infested with the lesser bulb fly.

NARCISSUS BULB FLY (*Merodon equestris* Fab.)

Oregon

Don C. Kote (May 11): The greater bulb fly *Merodon equestris* began to emerge at Corvallis, according to Mr. Wilcox, on April 25.

BULB MITE (*Chizolymus hyacinthi* Banks)

Ohio

E. T. Mendenhall (May 21): I find the bulb mite quite bad on narcissus bulbs in nurseries at Dayton and Lima.

Nebraska

M. H. Swenk (April 15-May 15): Late in April another greenhouse in Omaha reported a serious infestation of tulip and lily with the bulb mite.

ALFALFA NEMATODE (Tylenchus dipsaci Kuhn.)

Ohio

E. W. Mendenhall (May 14): I found the narcissus bulbs in the nurseries in Dayton and Piqua infested with nematodes, Tylenchus dipsaci, some damage being caused to the narcissus plants.

ROSE

POTATO APHID (Illinoia solanifolii Ashm.)

Mississippi

R. W. Harned (May 29): Specimens of Macrosiphum rosae-folium on rose collected at Morton on April 23 were sent to this office for determination.

ROSE LEAFHOPPER (Empoa rosae L.)

Ohio

N. F. Howard (May 29): This insect is abundant on rambler roses in the Columbus district. Some adults of the first brood have already emerged.

SUMAC

A BEETLE (Blepharida rhois Forst.)

Kansas

J. W. McColloch (May 20): This flea beetle is very abundant on sumac and firebush at Manhattan. Last year the larvae practically killed a number of firebushes on the campus.

LAWNS

WHITE GRUBS (Phyllophaga spp.)

Indiana

J. J. Davis (May 26): White grubs were responsible for winter killing of lawns at Elkhart, according to a report received May 18. White grubs were also reported damaging delphinium at Tipton May 21.

Kansas

J. W. McColloch (May 12): Injury to a bluegrass lawn is reported from Burlingame.

EARTHWORMS (Lumbricus sp.)

Ohio

T. H. Parks (May 10): Earthworms have been reported as damaging lawns in the city of Portsmouth, Scioto County. They come to the surface, where their mounds are unsightly.

ANTS (Formicidae)

- Michigan R. H. Pettit (May 19): Never before have ants in lawns made more trouble in Michigan. The discovery of a practical, effective and cheap method of treatment is greatly to be desired.
- Nebraska M. H. Swenk (April 13-May 15): Many complaints have come in during the period covered by this report of the injurious work of ants in lawns.
- Indiana J. J. Davis (May 26): Inquiries have been received from many localities in the northern half of the State of the abundance of ants in lawns. The majority have come in within the last 10 days, although others were received the last of April and early in May.

INSECTS ATTACKING MAN AND

DOMESTIC ANIMALS

MAN

HOUSE FLY (Musca domestica L.)

- Missouri L. Haseman (May 24): During the month the house fly has not been so abundant as usual.

BEDBUG (Cimex lectularius L.)

- South Dakota H. C. Saverin (May 14): The usual number of letters were received during the past few months regarding bedbugs.

HUMAN FLEA (Pulex irritans L.)

- General statement F. C. Bishopp (May 31): Reports of serious annoyance to man and animals have come in during May from Indiana, Illinois, Missouri, Arkansas, and Louisiana.

DOG FLEA (Otenocephalus canis Curtis)

CAT FLEA (Otenocephalus felis Fouché)

- General statement F. C. Bishopp (May 31): Reports of infestations of dog and cat fleas were received in May from Pennsylvania, Maryland, and South Carolina.

- Indiana J. J. Davis (May 26): Fleas were very abundant and annoying in farm buildings at Pittsboro, May 18. Other reports from Clayton and Frankfort were received early in April.

- Texas D. C. Forman (May 15-24): The premises at Brownsville were reported to be heavily infested with dog fleas but examination of the place was not made or any specimens obtained.

CLOVER MITE (Bryobia praetiosa Koch)

Indiana

J. J. Davis (May 5): The clover mite was reported the last half of April as very annoying in homes at Edinburg and Rushville. (May 26): Further reports of annoyance in houses were received from Converse May 16, LaFayette May 24, and Frankfort May 12. They were reported as injuring lawns.

Nebraska

M. H. Swenk (April 15-May 15): Complaints of annoyance by the clover mite in houses, which were noted in the last report as beginning to be received on March 20, continued to be received until May 10.

A GNAT (Hippelates sp.)

Texas
and
California

D. C. Ferman (May 19-24): On a survey trip to Laredo, Rio Grande City, ranches in northeastern Starr County, Missio, Brownsville, Falfurrias, Alice, Beeville, and San Antonio, examinations of live stock along the way was made and headquarters of several ranches were visited to get information and make examinations.

The gnats were observed from Rio Grande City to Brownsville, more at Brownsville than any place examined. They were found quite generally in windows of well-lighted houses and in one sandwich shop on the east side of town there were several hundred gnats and they would annoy customers to some extent. A kidney bait was exposed in several fields and open places about town and a good number of gnats could always be raised. Mr. Barber reported them to be so bad at times in one field that it was impossible to work there during the summer. They were reported to be bad at times over the entire valley and considerable complaint was had of sore eyes from gnats. At a garage in the north edge of San Benito there were swarms of gnats and there was a suggestion of the conditions found during April in Coachella Valley, California; one of the men stated that they are always bad there even at times in winter. A few could usually be raised with baits about Beeville and they were reported to be quite bad at times.

AMERICAN DOG TICK (Dermacentor variabilis Say)

Maryland and
Virginia

F. C. Bishopp (May 31): Several reports have been received of annoyance to people and dogs due to attack of wood ticks.

CATTLE

HORN FLY (Haematobia irritans L.)

Virginia

F. C. Bishopp (May 31): Horn flies are sufficiently numerous to annoy cattle considerably in the vicinity of Burks Garden. The number per animal ranges from 20 to 500 with an average of about 300.

Washington, D.C. F. C. Bishopp (May 27): Comparatively few horn flies are present on cattle in this section. The number per head runs from 0 to 100 with an average of about 20.

Missouri L. Haseman (May 24): Horn flies have been unusually abundant for this season of the year, causing considerable annoyance to cattle.

Texas D. C. Farman (May 19-24): On a survey trip to Laredo, Rio Grande City, ranches in northeastern Starr County, Mission, Brownsville, Falfurrias, Alice, Beeville, and San Antonio examinations of live stock along the way were made and headquarters of several ranches were visited to get information and make examinations.

Very few horn flies were observed at any place; it was rare to see an animal with more than 25 to 50 flies and most appeared to be entirely free of flies, less than I have ever observed.

COMMON CATTLE GRUB (Hydrotaea lineatum DeVill.)
NORTHERN CATTLE GRUB (Hydrotaea bovis DeG.)

New York F. C. Bishopp (May 20): A correspondent reports cattle grubs to be more abundant in the backs of cattle in this vicinity (Schenectady) this spring than he has ever seen them.

Virginia F. C. Bishopp (May 20): The average number of grubs runs less than 1 per head. This is undoubtedly less than in surrounding territory owing to the control work which is being carried on in Burkes Garden. All larvae found proved to be H. bovis except one 4th instar H. lineatum. This is an exceptionally late spring record for this species.

Indiana J. J. Davis (May 5): The ox warble was reported as conspicuously abundant at Winamac, LaFayette, and Frankfort.

South Dakota H. C. Severin (May 14): At times several dozen warbles may be found on one animal. The distribution is peculiar in South Dakota, some areas being free from this pest, while neighboring areas will be badly infested. At this date none of the warbles are ready to leave the cattle.

SHORT-NOSED OX LOUSE (Hemotopinus eurysternus Wigg.)

Nebraska M. H. Swenk (April 15-May 15): Early in May a Sherman County ranchman reported a heavy infestation of some of his cattle with sucking lice, Hemotopinus eurysternus.

LONG-NOSED OX LOUSE (Linognathus vituli L.)

Nebraska M. H. Swenk (April 15-May 15): Early in May a Sherman County ranchman reported a heavy infestation of some of his cattle with this insect.

SCREW WORM (Cochliomyia macellaria Fab.)

Texas

D. C. Farnon (May 19-24): On a survey trip to Laredo, Rio Grande City, ranches in northeastern Starr County, Mission, Brownsville, Falfurrias, Alice, Beeville, and San Antonio, examinations of live stock along the way were made and headquarters of several ranches were visited to get information and make examinations.

Only moderate numbers of these flies were observed at any place visited. Nearly all attractive materials had a few adults about, and more flies were observed on the ranches in northeastern Starr County than at any other place and there appeared to be fewer at Laredo and down the valley to Mission than at Uvalde, more about Brownsville. The adults had probably been destroyed by a storm on May 13. Only an occasional screw worm case was found and there was not a single case on four ranches in northern Starr County. Some worm medicines were reported to have been sold this year at all places where most of the culls were made since the rains began; ranchmen are generally expecting many worms soon.

SHEEP

SHEEP TICK (Melophagus ovinus L.)

South Dakota

I. C. Severin (May 14): Several severe infestations have come to our attention. New-born lambs may have as many as 50 to 100 ticks upon them.

BLACK BLOWFLY (Phormia regina Meix.)

New Mexico

J. R. Douglass (May 31): Complaints have been received from the largest sheep owners in this part of the State (Estancia) relative to the attack of the wool maggot. Many ewes are infested about the rump following lambing. Favorable weather conditions prevailed the first half of May and very little or no shearing has been done. A great many dead animals, especially lambs killed by the recent snow, are to be found on the range.

POULTRY

STICKTIGHT FLEA (Echidnophaga gallinacea Westw.)

Texas

D. C. Farnon (May 19-24): On a survey trip to Laredo, Rio Grande City, ranches in northeastern Starr County, Mission, Brownsville, Falfurrias, Alice, Beeville, and San Antonio, examinations of live stock along the way were made and headquarters of several ranches were visited to get information and make examinations.

The fleas were found quite general, approximately 85 per cent

of the places examined had fleas in noticeable numbers. From Uvalde to Laredo and Brownsville the fleas are in moderate numbers and some losses were found in about half of the flocks and in one case near Dilly more than half of all the chickens on the place had been lost. Very heavy losses from the fleas were reported at Alice and Beeville. The home demonstration agent stated that all of the chickens on some places had been lost and she had just returned from a place where the chickens were literally covered with fleas and dying in great numbers. One place 6 miles northeast of Alice had lost a flock of 200 to 300 hens and all of the young chickens and the dogs and cats observed were covered with the fleas and one dog had died. Reports varied as to the loss in the county from 25 to 75 per cent. One man who appeared to be conservative and pretty well acquainted with poultry conditions stated that most of the young chickens had been lost and probably 10 per cent of the old stock in that section. Fleas were found north to San Antonio and to Uvalde at most places. The heavy losses were always where general flocks were kept on ranches and run in barns and under houses but a considerable number of fleas were found on some well-kept flocks and places where fleas were not expected to be found. The probable loss in the territory visited is estimated at from 250,000 to 400,000.

HOUSEHOLD AND STORED-PRODUCTS

INSECTS

TERMITES (Reticulitermes spp.)

Indiana

J. J. Davis (May 5): Termites are very troublesome and destructive in every section of the State. (May 26): Termites have been destructive as usual, most of our reports the past month coming from the northern half of the State.

Kansas

J. W. McCulloch (May 20): During the period from April 21 to May 11, injury to woodwork in dwellings by termites has occurred at Great Bend, Winfield, Sabbath, Import, Sigler, Kansas, Hugoton, Topeka, and Kansas City.

Nebraska

H. H. Swank (April 15-May 15): Reports of serious damage to houses by our common termite, Reticulitermes tibialis Emery were received late in April from Clay County and in the middle of May from Cass County.

ARGENTINE ANT (Iridomyrmex humilis Mayr.)

Mississippi

R. W. Harned (May 24): After seven years of poisoning for this species on a 35 block area, recent investigations by Dr. F. W. Smith indicate that the city of Columbus has apparently eradicated the Argentine ant from this area. The ants are on the

verge of eradication in a number of other towns, namely: Oxford, West Point, Quitman, Pascagoula, and others. Recently the town of New Albany was found to be infested with the Argentine ant.

ANTS (Formicidae)

Mississippi

R. W. Harned (May 29): The fire ant, Solenopsis geminata, continues to be as great a pest as ever in this State. During the past few months this office has received complaints of the ants gnawing into strawberries, getting on the uniforms of athletes and stinging the people when the uniforms were put on, entering houses and stores, and causing much annoyance. Inspector N. L. Douglass, Grenada, recently sent to this office specimens of the odorous house ant, Tapinoma sessile Say, which he stated were causing housekeepers much annoyance in certain areas in that town. Recently a florist at Booneville sent to us some ants that were identified by Dr. M. R. Smith as Craneogaster laeviuscula var. clara Mayr. He stated that the ants were eating into the base of carnation buds, causing the petals to fall off. Dr. M. R. Smith reports that he recently found ants belonging to Camponotus caryae var. decipiens Wheeler infesting a house in Columbus. The housekeeper stated that the ants fed on syrup and were most numerous in the house about dusk. A correspondent at Corinth sent in specimens of Prenolepis sp., recently with the report that they were entering a refrigerator in her home. This species seems to be quite prevalent throughout the State.

SILVERFISH (Lepisma saccharina L.)

Indiana

J. J. Davis (May 26): Silverfish were reported annoying and destructive at Lowell and LaFayette during the past month.

POWDER POST BEETLES (Lyctus spp.)

Indiana

J. J. Davis (May 5): Powder-post beetles were reported doing damage to building timbers at Crown Point and to shovel handles at Terre Haute.

PALE-MARKED ASH BORER (Eburia quadrigeminata Say)

Indiana

J. J. Davis (May 26): This insect was reported boring in a hickory-elm floor which had been down for 35 years. This report was from Columbia City May 5.

LARDER BEETLE (Dermestes lardarius L.)

Nebraska

M. H. Swenk (April 15-May 15): The larder beetle was reported from Holt County April 5 as present numerously about a smoke-house in which the pest had previously done injury to smoked and salt-cured meats.

BEAN WEEVIL (Mylabris obtectus Say)

South Dakota H. C. Severin (May 10): Severe damage to stored beans has been reported several dozen times during the past few months,

WEBBING CLOTHES MOTH (Tineola biselliella Hum.)

South Dakota H. C. Severin (May 14): Tineola biselliella is our most common and injurious clothes moth. The case-making species is also found in South Dakota but rarely reported injurious.

COCKROACHES (Blattidae)

Indiana J. J. Davis (May 5): Cockroaches have been repeatedly reported from all sections of the State.

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